The Combination of Voigt and Sarner is Improper

Voigt is directed to a data computing system that includes a host computing unit 22 connected to a peripheral data storage system 24. (Col. 1, lines 58-59.) When the host computing unit deallocates a designated storage space by deleting a file or moving data, the host generates a predefined data pattern and writes that data pattern to the storage space being deallocated. The predefined data pattern is posted to the data storage system without alteration. The data storage system detects the predefined pattern posted by the host and, in response, deallocates the designated storage space to which the data pattern is being written. As a result, the data storage system now reflects the deallocation that has already been realized by the host software. (Col. 1, line 58 through col. 2, line 6.) The data storage system may actually write the predefined data pattern onto the physical blocks of the deallocated storage space, or not, depending upon the implementation. (Col. 4, lines 39-42.)

Sarner is directed to a method and apparatus for preventing the unauthorized writing of data to a main memory device after the occurrence of a predetermined event, such as the closing of voting polls. Circuitry is provided to cause the main memory device 1 to be "locked" such that once locked, no additional data can be written to the main memory device until it is erased by external means. This locking may occur by writing data to a specified address of an auxiliary memory device 2 which is connected to the main memory device in such a manner to render the main memory device incapable of having any additional data written to it. (Col. 1, lines 42-56.)

One of ordinary skill in the art would not combine the teachings of Voigt and Sarner for a variety of reasons. As is well known in the art and as described in Voigt, the allocation and deallocation of memory space in a computer system is a routine event that, while typically performed and controlled by host software on the host computing unit, may also be additionally controlled by the data storage system. (See col. 1, lines 11-15, lines 23-55 and col. 3, line 59 through col. 4, line 9.) This is in contrast to the locking memory device of Sarner in which once the main memory device is "disabled" or "locked" (i.e., "deallocated", as asserted in the Office Action) upon the occurrence of an extraordinary event (e.g., the closing of the voting polls), it is "incapable of having any additional data written to it" (i.e., reallocated) save by "physically erasing the memory by external means (not shown) such as by physical removal of the devices

and replacement or the addition of a circuit." (Abstract, line 7; col. 1, lines 52-56 and col. 4, lines 4-28.) As described in Sarner, once the main memory device is "disabled", "any subsequent attempt to write to the main memory would fail regardless if made by the original controlling system or, more importantly, if made by another system" and thus, "the locked state would remain in effect until physical access is made to the memory devices to erase them." (Col. 4, lines 42-46). One of ordinary skill in the art would not combine the teachings of Sarner with the computing system of Voigt because the allocation and deallocation of memory space in a computer system is an ordinary and routine task for which the requirement of "external means" or the "physical removal of the devices and replacement or the addition of a circuit" as taught in Sarner would be prohibitively inconvenient.

Further, while Voigt relates to allocating and deallocating areas of storage, Sarner is directed to the permanent disabling of the entire memory device upon a specified condition that can only be returned to its enabled state by "external means". (Col. 4, lines 18-22.) That is, the circuit of Sarner enables or disables the entire memory device and is incapable of being used to enable or disable only a portion of the memory device. (See col. 4, lines 47-50.) While this may be necessary to preserve the integrity of the voting process to which the memory device of Sarner is directed, it is wholly inapplicable to a computer system such as that disclosed in Voigt in which some areas of storage may be deallocated while others remain allocated, and in which the allocated and deallocated portions can vary over time.

The Office Action cites claim 1 of Voigt as supporting the rejection of claims 1, 12, and 22 of the present application, and also points to the pattern detector 72 of Fig. 2. The Office Action states that Voigt "does not explicitly disclose how the designated storage space is deallocated", but asserts that Sarner discloses "a form of deallocation" that could be combined therewith. The Office Action completely ignores the fact that Voigt clearly and unequivocally teaches deallocating storage areas in a storage system based upon command (a write command) from the host computing unit 22 that includes the data to be written to the areas of storage to be deallocated. (Col. 3, lines 38-42.)

Because the rejection of claims 1-22 selectively picks and chooses portions of the Voigt reference to support the rejection and ignores clear and unequivocal disclosure of this reference

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as a whole, the rejection of claims 1-22 under 35 U.S.C. §103(a) over Voigt in view of Sarner is improper. The Federal Circuit and its predecessor court have repeatedly indicated that when performing an obviousness analysis under §103, each reference must be considered in its entirety to determine whether it fairly suggests that the invention as a whole is obvious. See e.g., Bausch & Lomb v. Barnes-Hind/Hydrocurve, 230 USPQ 416, 419 (Fed. Cir. 1986) ("it is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art."); In re Dow Chemical Co., 5 USPQ 2d 1529, 1531-1532 (Fed. Cir. 1988) (when determining whether a suggestion for the claimed invention can be found in the prior art, "the full field of the invention must be considered; for the person or ordinary skill is charged with knowledge of the entire body of technical literature, including that which might lead away from the claimed invention ... Evidence that supports, rather than negates, patentability must be fairly considered.") (emphasis added); W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 311 (noting that the District Court erred in its §103 analysis "in considering the references in less than their entireties, i.e., in disregarding disclosures in the references that diverge from and teach away from the invention at hand."); In re Kuderna and Phillips, 165 USPQ 575, 578-579 (CCPA 1970) (stating that the issue of what would have been obvious to one of ordinary skill in the art must be made "in view of the *sum* of all the relevant teachings in the art, not in view of first one and then another of isolated teachings in the art."); In re Wesslau, 147 USPQ 391, 393 (CCPA 1965) (reversing the Board's decision and noting that if one were to follow the teachings of the prior art reference "in its entirety", he would be led away from the Applicants' invention).

As described in Voigt, the pattern detector 72 "detects the predefined pattern posted by the host computing unit 22" and "instructs the memory map 68 and/or free space list 70 to deallocate the designated storage space to which the data pattern is being written." (Col. 4, lines 33-42.) Although Voigt discloses that the predefined data pattern can "be essentially any arbitrary pattern", both the host and the data storage system must "recognize the pattern as meaning the associated storage space is unallocated" (Col. 3, lines 23-25.) The predefined data pattern "may actually be written onto the physical blocks of the designated storage space, or not,

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depending upon the implementation." (Col. 4, lines 39-42.) Regardless of whether the "predefined data pattern" is or is not "actually" written onto the physical blocks of the designated storage space, the deallocation of storage areas performed by the storage system 24 of Voigt is performed in response to the write of that "data pattern to the storage space being deallocated" by the host computing unit 22 ("The data pattern is used to inform the peripheral data storage system 24 that the data blocks being written to have been deallocated by the host computing unit" (col. 3, lines 31-34); "[t]he host writes the predefined data pattern out through the software drivers 48 over the SCSI interface 26, where it is posted at the data storage system 24 according to conventional write processes" (col. 3, lines 38-42); the pattern detector 72 "detects the predefined data pattern when that pattern is written from the host 22" (col. 3, lines 59-61); "[t]he host writes the predefined data pattern to the designated storage space (col. 4, lines 21-22;" [t]he write operation uses standard protocols which are in practice today (col. 4, lines 23-25);" and "the predefined data pattern is passed without alteration through the SCSI interface 26 to the data storage system 24" (col. 4, lines 25-27.))

In contrast to the computing system of Voigt, each of Applicants' independent claims recites generating data and writing the data to a first storage location of a plurality of storage locations on at least one storage device of a storage system in response to a communication from the host computer that does not include the data written to the first storage location.

To assert that any fair reading of Voigt teaches or suggests generating and writing data to storage locations in response to a communication from a host computer that does not include the data to be written is to completely ignore what Voigt fairly teaches to one skilled in the art. The sections of Voigt quoted above clearly demonstrate how the Office Action has selectively focused on only those portions of Voigt that support the rejection, to the exclusion of the rest of this reference. Because the rejection of claims 1, 12, and 22 is based upon an interpretation of Voigt that picks and chooses only so much of the reference as will support the rejection to the exclusion of all other portions of the reference, the rejection of claims 1, 12, and 22 is clearly improper and must be withdrawn.
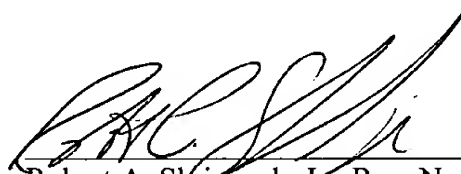
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Claims 2-11 and 13-21 depend either directly or indirectly from one of claims 1 and 12, and include the limitations in the independent claims from which they depend. Thus, the rejection of these claims is similarly improper and should be withdrawn.

CONCLUSION

In view of the foregoing remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this response, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' attorney at the number listed below. If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to deposit account No. 23/2825.

Respectfully submitted,

Steven M. Blumenau, et al.

Robert A. Skrivanek, Jr., Reg. No. 41,316
Wolf, Greenfield & Sacks, PC.
600 Atlantic Avenue
Boston, MA 02210
(617) 720-3500
Attorneys for Applicants

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